

Amendments to the claims:

The following list of claims replaces all prior versions, and listings, of claims in the application:

Listing of claims:

- 1(Currently Amended). A method for oxidizing a contaminant present in an environmental medium selected from soil, rock, groundwater, wastewater and process water, said method comprising contacting the contaminant with a composition comprising a persulfate and hydrogen peroxide, wherein the persulfate is a dipersulfate.
- 2(Canceled). The method of claim 1, wherein the persulfate is a monopersulfate or a dipersulfate.
- 3(Currently Amended). The method of claim 1, wherein the dipersulfate is sodium base, ammonium base, or potassium base.
- 4(Currently Amended). The method of claim 1 wherein the persulfate is sodium dipersulfate.
- 5(Currently Amended). The method of claim 1 wherein the mole ratio of dipersulfate to hydrogen peroxide is equal to from 1:20 to 20:1.
- 6(Currently Amended). The method of claim 1 wherein the mole ratio of dipersulfate to hydrogen peroxide is equal to from 1:10 to 10:1.
- 7(Currently Amended). The method of claim 1 wherein the dipersulfate and hydrogen peroxide are applied simultaneously to the medium.
- 8(Currently Amended). The method of claim 1 wherein the dipersulfate and hydrogen peroxide are applied sequentially to the medium.
- 9(Currently Amended). The method of claim 1 wherein the dipersulfate is applied to the medium prior to the application of the hydrogen peroxide.

10. (Currently Amended) The method of claim 1 wherein the hydrogen peroxide is applied to the medium prior to the application of the dipersulfate.

11(Currently Amended). The method of claim 1 wherein the dipersulfate and the hydrogen peroxide are applied to the medium sequentially in repeated applications.

12(Currently Amended). The method of claim 11 wherein the repeated sequential additions of dipersulfate and the hydrogen peroxide occur continuously.

13(Currently Amended). The method of claim 11 wherein the repeated sequential additions of the dipersulfate and the hydrogen peroxide are separated by time intervals.

14(Canceled). The method of claim 1 wherein the environmental medium is selected from soil, rock, groundwater, wastewater and process water.

15(Original). The method of claim 1, wherein the oxidation is performed in situ or ex situ.

16(Original). The method of claim 1, wherein the composition is introduced into the environmental medium in sufficient quantities and under conditions to oxidize substantially all of the contaminants in the medium.

17(Original). The method of claim 1 where the composition also includes an activator.

18(Original). The method of claim 17 where the activator is a divalent or trivalent transition metal.

19(Original). The method of claim 18 wherein the activator is a divalent transition metal selected from Fe (II), Cu (II), Mn (II) or Zn (II).

20(Currently Amended). The method of claim 18 wherein the activator is a trivalent transition metal, ~~iron (III)~~.

21(Original). The method of claim 17 wherein the activator is a divalent or trivalent transition metal combined with a chelating agent.

22(Currently Amended). The method of claim 21 wherein the activator is a divalent transition metal selected from ~~iron~~ Fe (II), Cu (II), Mn (II) or Zn (II).

23(Currently Amended). The method of claim 21 wherein the activator is a trivalent transition metal ~~selected from iron (III)~~.

24(Original). The method of claim 21 wherein the chelating agent is selected from ethylenediamine tetraacetic acid, citric acid, phosphate, phosphonate, catechol or nitroacetic acid.

25(Currently Amended). A composition suitable for use in treating a contaminant present in an environmental medium selected from soil, rock, groundwater, wastewater and process water, said composition comprising a dipersulfate and hydrogen peroxide.

26(canceled). The composition of claim 25, wherein the persulfate is a monopersulfate or a dipersulfate.

27(Currently Amended). The composition of claim 25, wherein the dipersulfate is sodium base, ammonium base, or potassium base.

28(Currently Amended). The composition of claim 25, wherein the dipersulfate is sodium persulfate.

29(Original). The composition of claim 25 wherein the mole ratio of dipersulfate to hydrogen peroxide is equal to from 1:20 to 20:1.

30(Original). The composition of claim 25 wherein the mole ratio of dipersulfate to hydrogen peroxide is equal to from 1:10 to 10:1.

31(Original). The composition of claim 25 further including an activator.

32(Original). The composition of claim 31 wherein the activator is a divalent or trivalent transition metal.

33(Original). The composition of claim 32 wherein the activator is a divalent transition metal selected from Fe (II), Cu (II), Mn (II) or Zn (II).

34(Currently Amended). The composition of claim 32 wherein the activator is a trivalent transition metal ~~Fe (III)~~.

35(Original). The composition of claim 31 wherein the activator is a divalent or trivalent transition metal combined with a chelating agent.

36(Currently Amended). The composition of claim 35 wherein the activator is a divalent transition metal is selected from Fe (II), Cu (II), Mn (II) or Zn (II).

37(Currently Amended). The composition of claim 35 wherein the activator is a trivalent metal, ~~Fe (III)~~.

38(Original). The composition of claim 35 wherein the chelating agent is selected from ethylenediamine tetraacetic acid, citric acid, phosphate, catechol or nitroacetic acid.

39(New). The method of claim 20 wherein the trivalent metal is Fe(III).

40(New). The method of claim 23 wherein the trivalent metal is Fe(III).

41 (New). The composition of claim 34 wherein the trivalent metal is Fe(III).